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NOMINATION OF DR. JAMES R. MAHONEY TO BE ASSISTANT SECRETARY FOR OCEANS AND ATMOSPHERE AND DEPUTY ADMINISTRATOR FOR THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HEARING

BEFORE THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

JANUARY 24, 2002

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COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

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C O N T E N T S

NOMINATION OF DR. JAMES R. MAHONEY TO BE ASSISTANT SECRETARY FOR OCEANS AND ATMOSPHERE AND DEPUTY ADMINISTRATOR FOR THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

THURSDAY, JANUARY 24, 2002

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 9:05 a.m. in room SR-253, Russell Senate Office Building, Hon. John Kerry, presiding.

OPENING STATEMENT OF HON. JOHN KERRY, U.S. SENATOR FROM MASSACHUSETTS

Senator KERRY. Good morning. It's my pleasure to convene this hearing today to consider the nomination of Dr. James Mahoney to be the Assistant Secretary for Oceans and Atmosphere and Deputy Administrator for the National Oceanic and Atmospheric Administration.

He's joined today, I gather, by his wife, Taya, back there with his twin daughters, Caitlin and Courtney, and daughter, Deborah, and sons, James and Robert, who I've just been informed are good constituents of mine in Massachusetts. So we're even more delighted to welcome you here.

[Laughter.]

Senator KERRY. I was telling your father a moment ago that, given his roots in Massachusetts 25 years long, we probably don't need a hearing, but we're going to do it anyway.

[Laughter.]

Senator KERRY. I really am pleased to have you here.

I'm also very happy to welcome Deputy Secretary of Commerce, Sam Bodman, also from Massachusetts, and NOAA Administrator, Admiral Lautenbacher. We're delighted to have you here, and thank you for taking time to be here in support of the nominee, which we note.

Let me just say very quickly that we want to try to expedite the hearing and that Senator Gregg has a pressing commitment upstairs, so we'll try to move along fast, but I don't want to shortchange the importance of this job.

NOAA really came into existence due to the great efforts of our Chairman of this Committee, Senator Hollings, in 1970, and its purpose was to protect life and property from natural hazards and

also to help us understand the total environment and lead to intelligent use of our natural resources.

There's an annual appropriation of over $3 billion, which represents 60 percent of the budget of the Commerce Department—12,000 employees. Many people, former secretaries, have come before us—and I think particularly of Ron Brown and Bill Daley and others in the past—they're always shocked to learn that the Commerce Department has a Navy as well as this extraordinary responsibility. More than 30 percent of the gross domestic product of our country is generated in the coastal zone, and 40 percent of all the new commercial and residential development is along the coast.

Predictions are that in about 20 years, 75 percent of all Americans are going to live in coastal areas, so we have an enormous burden on us, and the marine-related protection issues are huge. Even today I think it is as we sit here.

A court case is regrettably going to be argued in the First District regarding fisheries. Senator Snowe and I would particularly wish that the councils would be able to manage these things. That was the purpose of our regime, but it isn't happening properly. And last year we landed roughly—this is an extraordinary statistic—we landed 9 billion pounds of fish with a value of about $3.5 billion. And I'm pleased to say that New Bedford has returned to its status as the number-one fishing port, in terms of dockside revenues, with over $146 million in landings.

But we also know that we have enormous risks to our oceans. The ecosystem is stressed. Many of the world's greatest fisheries are over-fished. We have troubles in almost every one of our own fisheries surrounding the United States, from the salmon in the Northwest to the tuna to the Gulf of Mexico to the migratory species off the Atlantic coast and obviously, Georges Bank. Much of it is closed to fishing today, for proper purposes.

But these are huge missions, Dr. Mahoney. And then on the outside, you have all of the weather prediction in which, I must say, NOAA does an extraordinary job. The predictions of hurricane Michelle were really rather remarkable. They were so accurate, even as it twisted and turned, giving people notice, which was important to saving life and property.

So we value these services enormously, and we welcome your willingness to undertake this. And you come with, I must say, a terrific background and a terrific set of preparations for it. So we welcome the nomination.

Let me ask if my colleague has any quick opening remarks.

STATEMENT OF HON. RON WYDEN,
U.S. SENATOR FROM OREGON

Senator WYDEN. I do, Mr. Chairman, and I thank you. I think you've summed it up very well, Mr. Chairman.

And obviously in the Pacific Northwest, where we now have the highest unemployment rate in the country, we care tremendously about the issues that Senator Kerry has talked about. We have got to get the right number of fishers out there at the right time, catching the right number of fish to make this industry sustainable. Clearly, for states like Massachusetts and Oregon, this is a major

jobs issue. At the same time, we want to make sure that we don't shortchange science in the conservation issues that are so critical.

As I told you yesterday in our meeting, Dr. Mahoney, I'm going to support your nomination here this morning. You were very forthright in our dealings yesterday. The people of the Northwest feel that they have been listened to on these issues. We've had scores of public meetings. This is a time for action. We want to see you work with Bill Hogarth, who has been very forthcoming in our region, in terms of working with us, and getting results.

There are two specific issues that we want you to work on. The first is a question of the number of vessels that are out there. We've got to have a buy-back program that gets the right number of people at the right time, in effect, doing the things that are based on sound science.

Second, we want you to follow up on a promise that NMFS made to me personally and the people of our region to do something about this bycatch issue. We have seen action at the agency drag on and on. The resource is being wasted.

There are pictures of huge numbers of fish coming as a result of inadvertent catch to the shore, and they're being thrown away. They're not going to food banks. It's a waste of a resource. It is a real disgrace, and the agency has promised action on it, and it has not been forthcoming.

Those are the two issues. And we appreciate the public meeting. We're always anxious to have more. Now we want to get some results.

Mr. Chairman, I thank you.

Senator KERRY. Thank you very much, Senator Wyden.

I'm particularly pleased Senator Gregg is here, actually, to hear both of these comments, because he has a critical role in the Congress as one of our chief appropriators. One of the most difficult aspects of resolving the protection of fisheries—and obviously, New Hampshire is a participant in this—is finding a sensible way to reduce the fishing effort. And we've tried to augment the buy-back program so we literally get people out of fishing. Other countries are doing that to smart avail, and I think it's something we really need to think about expanding the program. There's just too much money chasing too few fish, and we need to have a balance in it, and that seems like an equitable way to reduce people who've been at it for generations but who are prepared, perhaps, to sell their equity in it.

Senator Gregg, thank you for taking time to be here, and we look forward to your introduction.

STATEMENT OF HON. JUDD GREGG,
U.S. SENATOR FROM NEW HAMPSHIRE

Senator GREGG. Thank you, Mr. Chairman and Senator Wyden. It's a pleasure to be here today and join the Committee in welcoming Dr. Jim Mahoney, who is being put forward for the NOAA position.

As the Chairman has reflected, NOAA is a critical agency.

I consider it to be one of the true jewels of the federal government in that it is a science agency that does extraordinary work and is on the cutting edge of science that is critical to us as a na-

tion and our survival, not only economically, but internationally and in a lot of strategic ways. And, of course, it's critical to the protection of the American people because it does warn us when tornados are coming and where hurricanes are going to hit. And it does a great job.

I have had the good fortune to be serving on the Subcommittee on Appropriations, and be Chairman of that Committee and now Ranking Member on it, which has jurisdiction over NOAA. The Senate has always been an aggressive supporter of NOAA, as the Chairman of this Committee has been. Not only the Chairman of the subcommittee, but the Chairman of the Full Committee have been key players in making that sure that NOAA receives the funding support it needs. It's something that we take great pride in in our Subcommittee on Appropriations.

And the successes of NOAA will continue if it continues to attract people like Dr. Mahoney. I've gotten to know Dr. Mahoney on a personal level. He lived across the street, actually, in our home down here. And it's wonderful to see Taya and Caitlin and Courtney here, who are great enthusiasts and who we enjoyed as neighbors. Unfortunately, they moved away just a little while ago, but they brought a lot of life and excitement to our street. I can tell you the twins are special kids, and the parents are, too.

And as a result of getting to know the Mahoneys personally, I can say, without any sort of qualification, that he will be an extraordinary asset to the government. The fact that he's decided to rejoin the government, I think, is a great plus to us as a government. He has a tremendous background.

The fact that a lot of his knowledge and base and experience comes from Massachusetts is only an extra plus.

Having an MIT degree in meteorology and being past President of the American Society of Meteorology and then teaching at Harvard for a number of years—I think almost 20 years, he also has an expertise in the private sector. He appreciates the needs of the private sector as they integrate with the scientific community. And that's very important in this agency, because there is so much overlap.

From my viewpoint, as I say, we are fortunate to have people like this who are willing to go back into public service, people like Dr. Mahoney. That's our good fortune.

So I come here today to endorse him with absolute enthusiasm. I know he'll be a tremendous addition to NOAA, and I look forward to working with him in the appropriating process to make sure that NOAA receives the support it needs in order to continue to do its mission which is so critical for our country.

I thank for the Chairman for your courtesy in allowing me to proceed.

Senator KERRY. Thank you very much, Senator Gregg. I'm confident that all the interested parties in this area will be even more delighted to know that since you're on the Appropriations Committee, this special personal relationship will do well for the agency.

[Laughter.]

Senator GREGG. Absolutely.

Senator KERRY. I know you need to get upstairs, so we really thank you for taking the time to be here. Thanks a lot.

Senator GREGG. You bet.

Senator KERRY. Dr. Mahoney, we look forward to your opening comments and to spending some time with you.

Let me just say to everybody we do have a hearing coming on at the conclusion of this nomination hearing on the important subject of CAFE standards, so we're going to try to expedite this as rapidly as we can, and I'm sure you won't object to that.

STATEMENT OF DR. JAMES R. MAHONEY, NOMINEE TO BE ASSISTANT SECRETARY OF COMMERCE FOR OCEANS AND ATMOSPHERE AND DEPUTY ADMINISTRATOR FOR THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Dr. MAHONEY. Not a bit, Mr. Chairman. Thank you, and thank Senator Wyden also for your gracious comments at the outset and the—well, I guess he's now out of the room. I obviously appreciate Senator Gregg's strong support, as well.

I think I want to simply return the note that we have been tremendously impressed with Senator Gregg and his wife, Kathy, not only in terms of his official capacity, but just as great people whom we have gotten to know as good friends.

And I think it makes the best kind of circumstance that the friendship doesn't mean special privilege; it means special challenge to try to do your job even better because people expect a lot of you in that case. And that's the sense in which I would draw on that friendship.

I will be quick and will try to parse my statement so that we can save a little bit of time for other comments and questions, as well.

I would note, with the long Massachusetts and New England tie which has been noted here, one, I'm very pleased and proud about, I have also spent a substantial part of my life living on the other coast—not in Oregon, Senator Wyden, but in California during periods of work at different times. So I think between both an East Coast and a West Coast experience for a long time with a great exposure to the coastal problems as well as a lot of international experience, hopefully what I would bring to NOAA will be a sensitivity to the very kind of things that both of you have just raised in your opening comments, as well.

I'll now highlight some of the matters in my opening statement which expresses some things I feel very strongly about. I first want to thank you for hearing me here today and for the courtesy of having this hearing at the time immediately after you've come back from recess. And I want to acknowledge that I am prepared—if you all decide, and the full Senate does, to confirm my appointment—to begin immediately and to work with Admiral Lautenbacher here and with Deputy Secretary Bodman and Secretary Evans, promptly getting going on these issues. And I want to acknowledge their strong support and encouragement during the long process that a nominee goes through before he or she comes to this point.

A quick biographical background. I was born in Syracuse, New York, so I'm familiar with snow in the upstate area, too, and I was a hometown college student. I had a great undergraduate education at LeMoyne College in Syracuse. I've just finished serving the max-

imum of three terms on its board of trustees, as a matter of fact. And then I went down to MIT for graduate school in meteorology following my undergraduate experience.

In my whole career after college, where I was a physics major, and beginning with the MIT meteorology experience, I've now had 40-years-plus working always in earth and environmental sciences on public health and public benefit issues. So I'd like to believe that I bring substantial experience on a number of NOAA issues as well as a strong sensitivity to the public mission of all of government, but in particular the service agencies, such as NOAA's. And I want to note that in my background.

Based on my experience on the Harvard faculty, I was co-founder of one of the nation's early new-generation environmental firms. In 1968, three of us organized a firm that we then called Environmental Research and Technology, Incorporated, and it was based out of the Harvard MIT complex.

I might note that the great counselor—and for many, many years, the strongest director of that enterprise—was Deputy Secretary Bodman, here in the room, as well. So we had the benefit of his great technical and business leadership while we built that business.

It's worth noting, with the NOAA tie to my meteorological background, we went after some of the air pollution and related atmospheric problems. And a quarter century ago, by the mid-1970s, our firm, ERT, was the largest employer of meteorologists outside of the federal government itself, in NOAA, in that period.

All of that experience with our firm represented a great grounding for me in dealing with issues of management of technical enterprises. The technical mind needs encouragement, challenge, direction, and discipline in many cases, but it needs most of all a sense of mission and vision in supporting good work, and I felt I learned that with our own business. I spent some years as a senior executive at the Bechtel Group based in San Francisco and also with International Technology Corporation based in Los Angeles initially and then back here in the Washington area. And that theme of good, button-down management, but management that respects the importance of the technical and professional inputs, is something that I'd like to believe that I've been very much acculturated to.

I came into public service in the late 1980s as the Director of the National Acid Precipitation Assessment Program, then called NAPAP. With the great focus on acid rain emerging out of the 1970s and with, very much, the emphasis of the Chairman, I'm well aware, you all in Congress in 1979, passed the Energy Security Act that set out a 10-year program in something that I've always thought of as an attempt at good government to say, "Let's get the answers and understand everything, from the technology to the sources of acid rain and the effects and what to do about it," understanding that this problem is wrapped together with a fundamental energy security and economic security issues.

During the final years of that program, while I was director, we dealt with organizing the work of 2,000 people who worked on that during the decade—over a thousand in the last years. We published a major encyclopedic compendium of all of the information

on acid rain, which I think has stood the test of time since that era. Science goes on, so there's much more that we've learned since then, but I think it was very well regarded. And, of course, we played a major role in the development of the Clean Air Act amendments of 1990.

I cite that experience a little bit more specifically here because many of the lessons learned with the acid rain program are quite directly relevant to the global climate change issues today. That is, we recognize that there is a great body of science, and we need to look at the science and related technology options carefully. We have to understand that there will always be uncertainty in that science. And this is not meant to be a surrogate for a political statement about uncertainty, it's just a fact which needs to be looked at in its own right. And then there is, of course, the great concern about energy and economic issues.

The lesson that I learned out of the acid-rain experience, and it colors my own thinking about global climate a great deal, is that it's very important to have a cogent plan which recognizes the facts and uncertainties of science and technology, which clearly states the energy and economic security issues and recognizes some things are ultimately political and policy decisions, but they must be informed by our best science, and we can help that process by carefully documenting what we're questioning and how we go about it.

So I'd offer that as a suggestion about what I would, and just out of personal experience, to try to help bring my contribution to the public sector.

Wrapping up quickly, I've had the benefit of substantial experience outside of the United States. I have had some work experience in slightly over 50 nations around the world. And this goes from everything from negotiating and then overseeing, as a board member, technical joint-venture companies in many places in the world as well as roles as advisor to a number of international agencies and a number of governments, especially in developing countries.

And a great formative experience for me, again, has been dealing with issues of first-generation environmental management in many developing circumstances in the world, including a 15-year relationship in Saudi Arabia where I was advisor to government. And these experiences often dealt with the resource issues, including fishery and agriculture and sustainability issues as well as the somewhat core issues in the atmospheric sciences and pollution that I dealt with more directly.

I have had the honor of serving on several committees of the National Academy of Sciences since back in the 1970s. I recently completed a term as co-chairman of the Academy's Board on Atmospheric Sciences and Climate, so I've had the benefit of the rigor of the attempts at objectivity and good insight that the academy provides in its work over time.

Coming, finally, to my viewed position at NOAA, I'm very committed to support Admiral Lautenbacher and appreciate, of course, his presence here today, and also to support Deputy Secretary Bodman, who has been a great overseer of NOAA during his year on the job already, and, of course, Secretary Evans, as well.

In all of these matters that face NOAA, I have a very high regard for the excellent staff, both professional and scientific, and administrative staff of NOAA, and I feel that what I should best do is to work with Admiral Lautenbacher, as I know he is already doing, to build on strength and attempt to enhance the careers of those working at NOAA and to enhance the delivery of the NOAA skills and service to the Committee, to the Congress altogether, and to the public.

So I pledge my strong support to you in this Committee, obviously to the whole Senate and the House, and clearly to the Executive Branch in filling those missions.

I close simply by thanking many here sitting behind me, as I note at the end of my statement. My wife, Taya, who's here, I wrote, and I really mean, has provided me with continuing love and support for my work over a great, long time. I have the great good fortune of six adult children, all of whom are married and off on their own careers. And we have 11 grandchildren, almost all Massachusetts-based. And also the light of our lives these days, and bringing us great joy, are our twin daughters, Caitlin and Courtney, who are just coming up to their 5th birthday, who are here behind me, too. So they keep me young in my work.

Thank you, Mr. Chairman and all, for hearing me out on this.

[The prepared statement and biographical information of Dr. Mahoney follows:]

PREPARED STATEMENT OF DR. JAMES R. MAHONEY

Mr. Chairman and Members of the Committee, I am pleased to come before you today regarding my nomination for Assistant Secretary of Commerce for Oceans and Atmosphere. I am honored that the President has chosen me for this position, and I am very grateful for the continuous encouragement and support of Secretary Evans, Deputy Secretary Bodman and Admiral Lautenbacher, who will be my supervisors in this position. I am particularly grateful for the opportunity to appear before you at this early time immediately after your return from recess. If confirmed by the Senate, I will take up my position at the earliest possible date.

I was born and raised in Syracuse, New York, and I received an outstanding undergraduate education, majoring in physics, at LeMoyne College in my home town. My career has involved over 40 years of continuous focus on the environmental and earth sciences, with a strong emphasis in the atmospheric, climate, hydrological and oceanographic areas. I have benefited from diverse work responsibilities in academic, corporate, government and international settings. I look forward to applying this experience in helping NOAA and the Commerce Department to address their critical national missions.

I received a Ph.D. degree in meteorology from MIT, and then immediately joined the Faculty of Public Health at Harvard University, in its Department of Environmental Health Sciences. This early career focus on public health and the environment set me on a course of responsible environmental management that has influenced all of my professional work.

Drawing upon my Harvard experience, I was co-founder of an environmental management company, then known as Environmental Research & Technology, Inc. (ERT) which grew to become the nation's largest environmental firm by the end of the 1970s, operating throughout the United States and several other nations. By 1975, ERT had became the largest employer of meteorologists and related technical specialists in the United States, except for the federal government itself. My experience with ERT provided great lessons on the management of a large technical organization. This experience was later enhanced during my service as a senior executive at the Bechtel Group in San Francisco and International Technology Corporation in Los Angeles and Washington.

I came into public service as Director of the National Acid Precipitation Assessment Program (NAPAP), working in the Executive Office of the President from 1988 through early 1991. NAPAP was a unique 10-year program created by the Energy Security Act of 1979, and charged with recommending sound approaches to control-

ling acid rain effects, while providing for continued energy and economic security for the nation. My service as NAPAP Director included the completion of the 10-year program involving the work of more than 2,000 technical and economic specialists; the publication of a major, internationally reviewed acid rain compendium; and extensive issue analyses supporting the development of the Clean Air Act Amendments of 1990. My NAPAP experience is particularly relevant to today's global climate change issues: complex scientific and technological questions, intertwined with substantial energy and economic security issues, are best addressed in a comprehensive fashion, preferably with a well-defined assessment plan that incorporates all of the principal issues under consideration.

In addition to my experience in the United States, I have worked in more than fifty other nations in several different roles: negotiating and overseeing international joint venture technical companies, representing the U.S. Government in specialist exchanges, advising government agencies on sustainable industry, fishery and agricultural practices (particularly in developing nations), and advising several United Nations and other international agencies.

I am a Fellow and former President of the 12,000-member American Meteorological Society, which serves the atmospheric, oceanographic and hydrological fields. I am gratified that during my term as President (beginning in 1990) the AMS undertook to expand its service to American and international society. As a result of a strategic review conducted during my term as President, AMS committed to a long-term program of support for science education at all levels, encouragement of technical careers for minority students, and the application of sound science to complex public issues including disaster preparedness, environmental protection and global climate change, among others.

I have been honored to serve on several committees of the National Academy of Sciences dealing with weather and climate, environmental protection and science education, beginning in the early 1970s. In 1999, I completed a term as Co-Chairman of the Academy's Board on Atmospheric Science and Climate.

I am committed to supporting Admiral Lautenbacher in assisting NOAA with its highly important missions aimed at understanding, protecting and enhancing our ocean, coastal, fishery, atmospheric and climate resources. NOAA has the benefit of a large number of highly skilled scientific, technical and administrative personnel, and I shall do all I can to help "build on strength" to enhance the careers of all NOAA personnel, and to further improve NOAA's service to the nation and the world.

Should I have the privilege of your endorsement and confirmation by the Senate, I pledge my continuous best efforts to serve the President, the Secretary of Commerce and the entire NOAA team. I also pledge my full responsiveness to members and staff of this Committee, as well as to the entire Senate and House of Representatives.

I want to acknowledge and thank my wife Taya Mahoney who provides continuing love and support for my work; my six adult children, their spouses and our 11 grandchildren who give meaning to our family life; and, not the least, our 5-year-old twin daughters who bring us joy every day.

Thank you again for the opportunity to appear before you today.

A. BIOGRAPHICAL INFORMATION

1. Name: James Richard Mahoney, Nickname: Jim.

2. Position to which nominated: Assistant Secretary for Oceans and Atmosphere and Deputy Administrator of NOAA.

3. Date of nomination: December 4, 2001.

3. Address: Residence: (Information not released to the public). Office: Same address as above (I currently work as an environmental management consultant from an office in a wing of my home.)

5. Date and place of birth: September 19, 1938, in Syracuse, New York.

6. Marital status: Married to Taya Haugland Mahoney, formerly Taya Theresa Haugland, since May 26, 1990.

7. Names and ages of children: Deborah Mahoney Briggs, 40; James Arthur Mahoney, 39; Robert Patrick Mahoney, 37; Peter Scott Mahoney, 36; David Joseph Mahoney, 35; Paul Richard Mahoney, 33; Caitlin Tess Mahoney, 4¾; Courtney Mae Mahoney, 4¾ (identical twin).

8. Education: Secondary School: Christian Brothers Academy, Syracuse, NY, Attended from 9/51 to 6/55, Awarded College Entrance degree in 6/55. College: LeMoyne College, Syracuse, NY, Attended from 9/55 to 6/59, Awarded B.S. Degree in Physics in 6/59; Graduate School: Massachusetts Institute of Technology, Cam-

bridge, MA. Attended 9/59 to 12/65, with breaks for technical work in NY and CA in 1960, 1961 and 1962, Awarded Ph.D. Degree in Meteorology in 6/66.

9. Employment record: Graduate student and research assistant, MIT, Cambridge, MA, 9/59 to 12/65, except for the breaks noted in next two items below. Research Staff Associate, General Electric Company, Defense Systems Department, Syracuse, NY, 6/60 to 9/60 and 6/61 to 9/61; Research Staff Associate, Space Technology Laboratories, Inc., Redondo Beach, CA, 6/62 to 9/62; Research Assistant, Harvard University, School of Public Health, Department of Environmental Health Sciences, Boston, MA, 1/66 to 6/66; Assistant Professor of Applied Meteorology, Harvard University, School of Public Health, Department of Environmental Health Sciences, Boston, MA, 7/66 to 6/71; Associate Professor of Applied Meteorology, Harvard University, School of Public Health, Department of Environmental Health Sciences, Boston, MA, 7/71 to 6/74; Co-founder, Senior Vice President and member of the Board of Directors, Environmental Research & Technology, Inc., Boston, Lexington and Concord, MA, 12/68 to 9/83. Part time with ERT and full time with Harvard University until 7/74. Full time with ERT thereafter; Expert Advisor on Environment and Energy, Organization for Economic Cooperation and Development, Paris, France, 5/70 to 9/70 (on leave from Harvard University and ERT); Environmental Management Consultant (independent practice), Boston, MA, 10/83 to 12/83; Manager, Environmental Industries Center, the Bechtel Group, Inc., San Francisco, 1/84 to 1/87; Environmental Management Consultant (independent practice), Sausalito, CA, 2/87 to 12/87; Director, National Acid Precipitation Assessment Program (NAPAP), Executive Office of the President, Washington, DC, 11/88 to 12/90. (Administratively—on NOAA payroll, and on assignment to EOP.); Senior Vice President, International Technology Corporation, Inc. (The IT Group, Inc. after 1998), Torrance, CA, 1/91 to 9/97 and Washington, DC, 10/97 to 7/99; Environmental management consultant (independent practice), McLean, VA, 8/99 to 6/01 and Ashburn, VA, 7/01 to present;

10. Government experience: Principal Investigator of federally-sponsored environmental research projects while on the faculty at Harvard University, from 1968 to 1974. EPA was principal sponsoring agency; Consultant on international state of practice on air pollution computer modeling, assigned by EPA and NOAA to represent United States practice at OECD in Paris, from 1969 to 1974; Member of the U.S.-USSR environmental specialist exchanges arranged during the 1972 Nixon-Brezhnev summit, at various U.S. and USSR locations, from 1973 to 1978; Consultant to EPA, as a member of a bilateral U.S.-Japan environmental exchange, Tokyo, 1977; National Academy of Sciences/National Research Council (NAS/NRC) committee appointments as follows: Motor Vehicle Emission Controls Committee member, 1973 to 1975; Environmental Manpower and Education Committee member, 1978 to 1979; Board on Atmospheric Sciences and Climate co-chairman, 1997 to 1999; Air Quality Management in the United States Committee member, 2001 to present; Member of the Health Effects Research Advisory Committee appointed by the Secretary of Energy, 1984 to 1989; Consultant to the EPA Science Advisory Board, 1992 to 1996; Member of the Ad-Hoc Committee on Environmental Security appointed by the Secretary of Defense, 1995 to 1998; Scientific peer reviewer for research grant proposals submitted to NOAA and EPA by prospective grantees at various times in the 1970s and 1980s; Advisor to the Office of the Governor of Massachusetts on the evaluation of state-level air pollution control strategies, 1968 to 1970.

11. Business relationships: Trustee of LeMoyne College in Syracuse, NY (my undergraduate college), 1992 to 2001; Co-founder, Senior Vice President and Director of Environmental Research & Technology, Inc. (ERT) in Boston, Lexington and Concord, MA from 1968 to 1983; President of ERT International, Inc. (international business subsidiary of ERT), 1975 to 1983; Director of international joint venture companies created by ERT and in-country partner companies as follows: ICATEC, SA in Mexico City, 1978 to 1983; AMARTECH, LTD in Jeddah, Saudi Arabia, 1975 to 1979; KISR-IT LTD in Kuwait, 1977 to 1979; Senior Vice President of International Technology Corporation (The IT Group, Inc. after 1998) in Torrance, CA and Washington, DC from 1991 to 1999; President of the Consulting and Ventures Group within the IT Group, Inc., Washington, DC, 1999; Director of domestic and international subsidiary and joint venture companies created by the IT Group, Inc., as follows: Gradient Corporation, subsidiary in Cambridge, MA, 1995 to 1999; LandBank, LLC, subsidiary in Denver, CO, 1995 to 1999; JSC Corporation, subsidiary in Roslyn, VA, 1998 to 1999; Chi Mei-IT Corporation, joint venture company in Taipei, Taiwan, 1997 to 1999; KOHAP-IT Corporation, joint venture company in Seoul, Korea, 1998 to 1999; Environmental and business consultant to the environmental insurance practice of Swidler Berlin Shereff Friedman LLP, a law firm in Washington, DC, 2000 to present; Environmental advisor to the Southern Appa-

lachian Mountains Initiative, and ad hoc federal, state, NGO and corporate-sponsored environmental analysis and planning organization in Asheville, NC, 2001 to present; Environmental management consultant to a broad range of clients between 1968 and the present. My practice has involved many agencies of the federal government, several international organizations, national and regional government units in many parts of the world, as well as corporations and industry associations throughout the United States. A representative list of the more than 100 client organizations for which I have provided professional services follows: U.S. Federal agencies including NOAA, U.S. EPA, U.S. Department of Energy, U.S. Department of Defense, U.S. Department of Transportation, U.S. Department of State Agency for International Development, International organizations including the World Meteorological Organization, the World Health Organization, the United Nations Development Program, the Organization for Economic Cooperation and Development, and the North Atlantic Treaty Organization, national government environmental and planning ministries including the governments of Greece, Nigeria, Saudi Arabia, Kuwait, Finland, England, Italy, Mexico, Brazil, Japan, Hong Kong, Belgium, Denmark, Portugal, and the former Soviet Union, Business and commercial organizations including the Business Roundtable, the Edison Electric Institute, the American Forest Products Association, the Chemical Manufacturers Association, the Aluminum Association, the American Iron and Steel Institute, the National Association of Manufacturers, the Electric Power research Institute, and the American Petroleum Institute, Individual corporate clients of various sizes including (among others) the General Electric Company, the General Motors Corporation, USX Corporation, Westvaco Corporation, International Paper Corporation, DuPont Corporation, the Dow Corporation, American Electric Power Corporation, Tampa Electric Company, Pacific Gas & Electric Company, Procter & Gamble Company, the Shell Corporation, the Texaco Corporation, Boston Edison Company, Burlington Northern Railroad, Union Pacific Corporation, Yellow Freight Corporation, Fluor Corporation, Consolidated Electric Company of New York, Union Camp Corporation, and GPU Nuclear Corporation.

12. Memberships: Citizens for the Boston Schools (civic betterment organization), Boston, member 1964 to 1970, President, 1968 to 1970; American Meteorological Society: member since 1966; member and chairman of the AMS Committee on Air Pollution Meteorology, 1971 to 1975; editor-in-chief of the Journal of Applied Meteorology, 1973 to 1975; member of the AMS governing council and executive committee, 1976 to 1982; AMS President, 1990 to 1991; member of the AMS Planning Committee, 1994 to 1999; member of the AMS Investment Committee, 1995 to present; Member, Belmont Country Club, Ashburn, VA, 2001 to present; Air and Waste Management Association, member, 1985 to 1992.

13. Political affiliations and activities: (a) List all offices with a political party which you have held or any public office for which you have been a candidate. None.

(b) List all memberships and offices held in and services rendered to all political parties or election committees during the last 10 years. None, except for 2 days assisting in the November 2001 election campaign of my brother, Bernard J. Mahoney, who was the unsuccessful candidate for Mayor of Syracuse, NY.

(c) Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of $500 or more for the past 10 years. None.

14. Honors and awards: Valedictorian of my high school graduating class; BS degree awarded Magna cum Laude by LeMoyne College, and my rank was 2 out of 400 in the graduating class; New York State Regents Scholarship for college support; Danforth Foundation Graduate Fellowship, supporting my attendance at MIT; National Science Foundation Graduate Fellowship, supporting my attendance at MIT; Fulbright Post-Doctoral Fellowship to study at the University of Sydney, Australia. (Resigned after award, to accept the faculty position offered by Harvard University); Selected as a Bechtel Fellow (one of four worldwide) by the Bechtel Group in 1985; Elected President of the American Meteorological Society by the membership in 1989; Honored as Distinguished Alumnus by LeMoyne College in 1990; Elected Fellow of the AMS in 1990; Awarded the U.S. Commerce Department Gold Medal for exceptional service as a NOAA special appointee, while Director of the National Acid Precipitation Assessment Program in 1990; Recipient of the Cleveland Abbe Award of the AMS, recognizing unique contributions to the atmospheric sciences field, in 1998.

15. Published writings: I have been author or co-author of approximately 20 papers in peer reviewed scientific journals and more that 200 other technical presentations and project reports, all in the fields of meteorological and environmental analysis. Except for a scientific book review published in 2001 (noted below) the most recent of my publications was in 1983, to the best of my recollection. After re-

locating several times in the past 18 years, I do not have a list of my publications from the 1966 to 1983 period. If the Committee requires this earlier information, I will attempt to reconstruct it from primary sources.

Book review of "Crossing Borders, Crossing Boundaries: the Role of Scientists in the U.S. Acid Rain Debate" by Leslie R Alm. Review published in the Bulletin of the American Meteorological Society, Vol. 82, pp 490–492, 2001. Because the published review contains some of my thoughts on the roles of scientists in the evaluation of scientific issues important to the public, two copies are included for the Committee with this document.

I am author of a chapter in one technical book, "Dangerous Properties of Industrial Materials," a standard industrial toxicology reference book published in approximately 1970 by Von Nordstrand, and edited by N. Irving Sax My chapter described methods to analyze the potential health risks of air pollutants in the vicinity of industrial facilities.

14. Speeches: Attached are two copies of the text and overheads used with a speech on "The Opportunities and Challenges in Developing Green Industries for Hong Kong, the Pearl River Delta and Beyond, as Illustrated by Other International Environmental Management Programs", presented in a Hong Kong government-sponsored seminar in Hong Kong in March 2000.

I have made many other informal presentations during the past 5 years, but no other prepared, written speeches.

17. Selection: Do you know why you were chosen for this nomination by the President? I have no specific knowledge, but see the following answer.

(b) What do you believe in your background or employment experience affirmatively qualifies you for this particular appointment? I believe I am qualified for this appointment because I have the experience, commitment to public service, and energy level necessary to serve NOAA and the nation. Among my relevant background and experience I would cite the following:

- Extensive and continuous experience with the meteorological, hydrological and oceanographic fields since graduate school in the 1960s.
- Extensive experience with issues that combine environmental science and important public issues, such as acid rain, coastal zone management and global change.
- Prior experience as Director of the National Acid Precipitation Assessment Program (NAPAP), for which I received the Commerce Department Gold Medal recognizing exceptional service. The NAPAP assessment experience is currently relevant for the scientific understanding of global change issues, including evaluation of causes, effects, mitigation and adaptation options, and long term strategy comparisons.
- Long-term leadership within the community of the American Meteorological Society, that addresses the meteorological, hydrological and oceanographic sciences and their application. My AMS experience includes the position of elected President of the organization.
- Extensive experience in the general management of large scientific and technical organizations, in both the government and private sectors.
- Long experience in dealing with the multiple stakeholders involved in environmental management decisions, including frequent experience with public hearings and congressional testimony. .
- Prior academic experience, on the faculty at Harvard University.

B. FUTURE EMPLOYMENT RELATIONSHIPS

1. Will you sever all connections with your present employers, business firms, business associations or business organizations if you are confirmed by the Senate? Yes.

2. Do you have any plans, commitments or agreements to pursue outside employment, with or without compensation, during your service with the government? If so, explain. No.

3. Do you have any plans, commitments or agreements after completing government service to resume employment, affiliation or practice with your previous employer, business firm, association or organization? No.

4. Has anybody made a commitment to employ your services in any capacity after you leave government service? No.

5. If confirmed, do you expect to serve out your full term or until the next Presidential election, whichever is applicable? Yes.

C. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients or customers.

I have two deferred compensation agreements with my former employer, the IT Group, Inc., of Monroeville, Pennsylvania. These non-qualified plans developed by the corporation in accordance with IRS regulations. These are referred to as the "IT Deferred Compensation Plan" and the "IT 401K Restoration Plan" (note: this is not a 401K plan). Under these plans portions of my income were not paid currently, but were retained by the corporation for payment at a future date. When the plans were initiated, I made the election to receive the deferred funds over a 5-year period beginning on the third anniversary of my last date with the corporation. The date for payment initiation is August 21, 2002. The company credits deferred interest to the plan balance each year. Both plans have an IRS-approved option of a lump sum payout, subject to a 15 percent penalty, and current taxation on the entire lump sum. On December 3, 2001, I made application for the lump sum payout of both plans, because the corporation is at serious risk of bankruptcy. I may, or may not, receive funds in response to my request, because of the current financial state of the company. I have no control over the formula for crediting the interest earned or the payment schedule for these funds; these are fixed according to the contracts signed years ago. I have disclosed the details of these arrangements to the Ethics Counsel at the Commerce Department.

I have a continuing professional consulting arrangement covering environmental and business matters with the Washington DC based law firm of Swidler Berlin Shereff Friedman, LLP. The arrangement establishes finders' fees to be paid to me for arranging introductions that result in new client relationships for the law firm, in the area of environmental liability insurance recovery. I will terminate my relationship with the law firm before entering into my federal appointment, if confirmed. Under our agreement, one or more payments triggered by earlier introductions will be made to me at a future date(s) within approximately the next 2 years. The amount of such payments is established by a formula in our written agreement executed in May 2000; the formula is applied to the total amount of insurance recovery achieved in cases for which I am eligible for payment. I have disclosed this agreement in detail to the Commerce Department Ethics Counsel, and we have developed plans to assure that no conflict of interest will arise because of this arrangement.

As part of my ongoing work with Swidler Berlin Shereff Friedman, LLP, I have a fee sharing agreement with the firm of Renova Partners LLC of Boston, which is assisting me in my work for the law firm. I will terminate this arrangement before taking up my appointed position if confirmed. I have disclosed this arrangement to the Commerce Department Ethic Counsel.

I have a continuing professional consulting relationship with the Southern Appalachian Mountains Initiative (SAMI), an ad-hoc environmental study organization supported by several federal and state agencies, as well other stakeholders in eight states in the southeastern United States. Under our agreement I am assisting SAMI in arranging scientific peer reviewers for SAMI's final technical reports. I bill SAMI for my time charges and actual expenses. I will terminate this agreement before taking up my appointed position if confirmed. I have disclosed this agreement to the Commerce Department Ethics Counsel.

I have been serving on a Committee on Air Quality Management in the United States, for the National Academy of Sciences-National Research Council. This is pro bono work. Actual expenses are reimbursed by the Academy, and there is no other compensation for services. I will resign from this Committee prior to taking up my appointment if confirmed. I will submit a statement to the Academy for one current expense amount, and there will be no other financial transactions after this one expense item is paid. I have disclosed this work to the Commerce Department Ethics Counsel.

I serve on the Investment Committee of the American Meteorological Society, which is a not-for-profit scientific, professional and educational organization. I receive no fees or expense reimbursement for this pro bono work. I will resign from this committee before taking up my appointment if confirmed. I have disclosed this committee assignment to the Commerce Department Ethics Counsel.

Except for the matters described above, I do not have any continuing dealings with business associates, clients or customers.

2. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated. I have a stock investment in one company (Nokia Corporation) that slightly exceeds the reporting limit of $5,000. I have disclosed this to the Commerce

Department Ethics Counsel, and have committed to a plan to avoid a conflict of interest in this case.

The only financial liability that my wife and I have is a primary mortgage on our residence. I am not aware of any other investments, obligations, liabilities or other relationships which could involve a potential conflict of interest in the position to which I have been nominated.

3. Describe any business relationship, dealing, or financial transaction which you have had during the last 10 years, whether for yourself on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated. Other than the arrangements described in my response to the previous question, I do not believe that I have had any other business relationship, dealing or financial transaction during the last 10 years, that would in any way result in a possible conflict of interest in the position to which I have been nominated.

4. Describe any activity during the past 10 years in which you have engaged for the purpose of directly or indirectly influencing the passage, defeat or modification of any legislation or affecting the administration and execution of law or public policy. I have not engaged in any such activities during the past 10 years.

4. Explain how you will resolve any potential conflict of interest, including any that may be disclosed by your responses to the above items. (Please provide a copy of any trust or other agreements.) A copy of the Ethics Agreement I have completed with Barbara S. Fredericks, Assistant General Counsel for Administration of the Commerce Department, with a copy to Commerce Secretary Evans, is attached.

6. Do you agree to have written opinions provided to the Committee by the designated agency ethics officer of the agency to which you are nominated and by the Office of Government Ethics concerning potential conflicts of interest or any legal impediments to your serving in this position? Yes.

D. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics for unprofessional conduct by, or been the subject of a compliant to any court, administrative agency, professional association, disciplinary committee, or other professional group? If so, provide details. No.

2. Have you ever been investigated, arrested, charged or held by any federal, state, or other law enforcement authority for violation of any federal; state, county, or municipal law, regulation or ordinance, other than a minor traffic offense? If so, provide details. No.

3. Have you or any business of which you are or were an officer ever been involved as a party in interest in an administrative agency proceeding or civil litigation? If so, provide details. The IT Group, Inc, for which I was Senior Vice President from 1991 to 1999, is a large environmental service and infrastructure project firm, with revenues exceeding $1 billion per year, and operations throughout the United States and overseas. In the normal course of business the company is involved in several matters of civil litigation each year. None of these matters were in the area of my direct responsibility during my years with the firm.

I am not aware of any civil litigation matters in which I have been a party at interest, except for a court approval of a negotiated divorce settlement of my first marriage, finalized in 1989.

4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? No.

5. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be considered in connection with your nomination. I am not aware of any other information, favorable or unfavorable, that the Committee should consider to be relevant to consideration of my nomination.

E. RELATIONSHIP WITH COMMMITTEE

1. Will you ensure that your department/agency complies with deadlines set by congressional committees for information? Yes.

2. Will you ensure that your department/agency does whatever it can to protect congressional witnesses and whistleblowers from reprisal for their testimony and disclosures? Yes.

3. Will you cooperate in providing the committee with requested witnesses, to include technical experts and career employees with firsthand knowledge of matters of interest to the committee? Yes.

4. Please explain how you will review regulations issued by your department/agency, and work closely with Congress, to ensure that such regulations comply with the spirit of the laws passed by Congress. I will assure that I receive effective.

briefings on the legislative history for the provisions of federal law that drive the regulations and procedures that NOAA is charged to implement. I will supplement these briefings with my own inquiries to other interested parties where appropriate. I will proactively seek counsel from Senate and House committee members and their staff on the issues related to their oversight or special interests, on a continuing basis. I will ask the Commerce Department and NOAA legal and legislative affairs personnel to keep me briefed on the background of each important issue, and the obligations that each such issue imposes upon NOAA.

5. Describe your department/agency's current mission, major programs, and major operational objectives. NOAA's mission is to understand, describe and predict changes in the earth's environment, and to provide conservation and sound management of the nation's coastal and marine resources. NOAA's responsibilities are important to every citizen and resident in the United States, and to many of the nation's most important sectors, including public safety and health, commerce, transportation, environmental and ecosystem protection, energy system reliability, and coastal and marine zone activities, among others. In addition, NOAA's scientists and operational specialists, observation systems, laboratories, research vessels, aircraft and satellites, computer resources, and communications systems have unique responsibilities to serve the United States and the global community in understanding significant global change issues. Prudent management of our global environment must begin with the best-possible science, measurement systems and forecasting resources that are the core assets of NOAA.

NOAA's major programs respond to its mission responsibilities. These programs include:

• Advancing short-term weather forecasting with emphasis on continuous improvements in the warnings and advisories associated with severe storm events.

• Improving seasonal and year-to-year weather and climate forecasting capabilities, providing better earth system understanding and direct benefits for the energy, agricultural, water resource management and transportation sectors, among others.

• Improving climate change understanding, on the time scale of 10 to 100 years, critically important to the development of optimal approaches to the global management of climate change risks.

• Enhancing safe navigation capabilities, to promote transport system safety, and to be prepared to support the next generation of advances in navigation technology for surface, free ocean, coastal zone, and airborne vessels.

• Building sustainable fisheries, by a program of measurements, population analyses, and improved understanding of natural and man-made variability in commercially important fish populations—and by developing management guidelines that enhance sustainability.

• Recovering protected species that are significantly threatened in estuaries, coastal zones and ocean environments, by resource management, supported with increases in aquatic and mammalian ecosystem understanding.

• Sustaining healthy coastal ecosystems, by research, observation and resource management approaches that address the natural and man-made stresses on irreplaceable coastal resources.

6. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so? Yes.

F. GENERAL QUALIFICATIONS AND VIEWS

1. How have your previous professional experience and education qualifies you for the position for which you have been nominated? Beginning with my entry into the graduate meteorology and oceanography program at MIT in 1959, I have had 42 years of continuous experience in several of the core elements of NOAA's mission. My career has benefited from diverse experiences in many settings:

• Research scientist focusing on atmospheric, coastal and marine sciences,

• University professor in a public health faculty, "growing up" with the environmental management issues emerging around the world,

• Technical business entrepreneur who co-founded the first large scope environmental management practice extending throughout the nation and overseas,

• Frequent environmental advisor to agencies of the U.S. Government, as well as international agencies and foreign governments,

• Frequent testimony before Congress both as a federal appointee and as a non-government specialist,

• Prior federal service as the Director of the National Acid Precipitation Assessment Program,

• Decades-long involvement with the American Meteorological Society which counts a sizable percentage of the NOAA staff as members, including election as

AMS President by the membership, general management of large, multi-location technical organizations as an executive of the Bechtel Group and the IT Group,

• Substantial experience with planning, budgeting, operational and financial controls, human resource issues, and career enhancement for large groups of personnel, and

• Substantial experience with multi-stakeholder communications as related to environmental planning and decisionmaking.

2. Why do you wish to serve in the position for which you have been nominated?

All of my environmental management experience has involved working at the interfaces of multiple stakeholders: government, industry, environmental groups, community members, and technical experts. Public health and the public good are at the core of this type of environmental management practice.

My prior experience in a key federal position, and my long career experience working at the public-private interface, has confirmed my fundamental desire to use my training and skills for a public purpose. I am highly motivated to make a useful contribution working with the excellent scientific, operational and administrative staff at NOAA.

3. What goals have you established for your first 2 years in this position, if confirmed?

• General: working with the direction of the new Administrator Admiral Lautenbacher, to build on NOAA's strengths of personnel, technology, operational systems, and institutional experience to further enhance NOAA's effectiveness in assessing, forecasting and helping to guide the protection of the global environment. I believe the best method to honor NOAA's legacy of long accomplishment is to build on it, by embracing opportunities for change that enhance NOAA's service to all of its stakeholders.

• Near term (within the first 6 months or less): to become fully familiar with NOAA's resources, opportunities and constraints, in order to be fully effective in assisting Admiral Lautenbacher and the entire NOAA management in communicating NOAA's vision of enhanced services to its many stakeholders.

• Throughout my period of service: to help make NOAA a "great place to work" for scientists, operations personnel and administrators, so that NOAA is able to attract its full share of "the best and the brightest" to serve its longterm mission of global environmental understanding, forecasting and management.

• Continuously: to enhance NOAA's communication with all of its stakeholders, so that its service effectiveness is continuously enhanced.

4. What skills do you believe you may be lacking which may be necessary to successfully carry out this position? What steps can be taken to obtain those skills?

My knowledge of a number of NOAA's capabilities and programs is very limited, so I will proactively seek briefings from, and regular contact with, those NOAA associates at all levels whose work should be recognized, and from whom I can learn.

5. Who are the stakeholders in the work of this agency?

• The entire public, who are the users of NOAA information, forecasts, safety advisories, and environmental management guidance.

• The taxpayers, who pay the costs for NOAA operations.

• The Senate and the House of Representatives (in particular the oversight committees and other members with specific interests in NOAA operations), on behalf of the public and the taxpayers.

• NOAA's supervisors in the Executive Branch, and the many federal agencies that collaborate with NOAA.

• NOAA's employees, who seek rewarding careers in return for committed work performance.

• The private sector organizations, non-profit organizations, news media, research groups, universities and school systems, that use and disseminate NOAA-developed information, thereby multiplying the effectiveness of NOAA's activities.

• The international environmental management community (including governments, international organizations, non-government organizations, private sector organizations, and educational and research organizations) that collaborate with NOAA, and use NOAA-developed information.

• The communities that host NOAA facilities and NOAA staff.

6. What is the proper relationship between your position, if confirmed, and the stakeholders identified in question No. 5.

If confirmed, my responsibility is to assist NOAA Administrator Admiral Lautenbacher, and the entire NOAA management and staff, in serving the needs of the NOAA stakeholders. This responsibility includes a continuous commitment to excellence in performance, efficient use of taxpayer-supplied funds, openness to changes that will enhance NOAA's mission, and honest communication with NOAA staff and external stakeholders.

7. The Chief Financial Officers Act requires all government departments and agencies to develop sound financial management practices similar to those practiced in the private sector. (a) What do you believe are your responsibilities, if confirmed, to ensure that your agency has proper management and accounting controls?

Proper management and accounting controls are the essential underpinning for all of NOAA's activities. Much of my career has involved executive management of large, private sector technical service organizations, and this experience has caused me to be committed to highly effective management controls as the *sine qua non* condition for organizational operation.

(b) What experience do you have in managing a large organization?

- Fifteen years in developing a major private-sector environmental service organization from startup to national and international scope, with direct supervisory responsibilities for up to a few hundred staff.
- Four years in executive management at the Bechtel Group, with direct supervisory responsibilities for up to a few hundred staff.
- Three years as Director of the National Acid Precipitation Assessment Program, with highly demanding stakeholders focused on a group of complicated public issues, and approximately 1,200 government employee and contractor staff working on preparation of the NAPAP assessment products. I was awarded the U.S. Commerce Department Gold Medal for exceptional performance as NAPAP Director in 1990.
- Eight years experience as Senior Vice President of the IT Group, Inc., with executive management responsibility (profit and loss responsibility) for major elements of this $1+ billion annual revenue company, involving supervision of up to 2,500 staff.

8. The government Performance and Results Act requires all government departments and agencies to identify measurable performance goals and to report to Congress on their success in achieving these goals. (a) Please discuss what you believe to be the benefits of identifying performance goals and reporting on your progress in achieving those goals.

The definition of measurable individual and group performance goals, and the scheduled reporting of progress in achieving these goals, is essential for the efficient management of NOAA. Defined goals and written evaluations of progress in achieving the goals are important tools of management communication that foster individual and group effectiveness, and that provide the basis for career advancement opportunities for all staff.

(b) What steps should Congress consider taking when an agency fails to achieve its performance goals? Should these steps include the elimination, privatization, downsizing or consolidation of departments and/or programs?

In the case of failure to meet agency performance goals, Congress might first examine whether the goals were realistic and well communicated, and whether any external influences seriously impeded attainment of the goals. If these inquiries do not indicate specific problems, then Congress should examine a full range of options to improve performance, while assuring that essential public needs are being met.

(c) What performance goals do you believe should be applicable to your personal performance, if confirmed?

I believe that it is premature to establish meaningful performance goals until I have a better understanding of the issues, priorities, opportunities and constraints facing NOAA. If confirmed, I would prepare written goals and performance measures within three months of taking up my new appointment.

9. Please describe your philosophy of supervisor/employee relationships. Generally, what supervisory model do you follow? Have any employee complaints been brought against you? I strongly believe in open and honest communication between supervisors and employees at all levels. I believe that supervisors should take the initiative to provide employees with as much information as appropriate about the context for policies, directives and specific decisions. NOAA has a highly educated and motivated staff, and this openness is particularly important for fostering the level of cooperation and initiative-taking that is essential for excellent group performance. Fairness and objectivity is important in all cases, and all staff must feel that their career advancement will be related to their performance rather than to non-relevant factors.

I am not aware of any employee complaints being brought against me. I am motivated to continue my long record as a highly regarded supervisor and mentor with large numbers of technical and administrative staff for whom I have been supervisor over many years.

10. Describe your working relationship, if any, with the Congress. Does your professional experience include working with committees of Congress? If yes, please describe. I have had various points of contact with the Congress during the past 25 years. In the mid-1970s, I was retained as a technical specialist by a number of

nationalscope industrial and commercial organizations, with responsibility for scientific analysis of various environmental legislative proposals being considered by the Congress. I presented my findings in approximately ten appearances before Senate and House subcommittees, and in several briefings for committee members and staff. This experience taught me the crucial lesson that scientific analysis of environmental issues can be credible only if it objective and free of advocacy for a predetermined position.

During my service as NAPAP Director I was also invited to testify before subcommittees of both the Senate and the House approximately 10 times, and I was frequently required to answer questions communicated by interested members of both houses.

11. Please explain what you believe to be the proper relationship between yourself, if confirmed, and the Inspector General of your department/agency. The Inspector General has an essential role in every federal agency. My responsibility is to be directly responsive to any requests by the Inspector General for meetings or other communications, to fully evaluate and act upon information brought to my attention by the Inspector General, and to foster a culture of high integrity performance by all NOAA staff.

12. Please explain how you will work with this Committee and other stakeholders to ensure that regulations issued by your department/agency comply with the spirit of the laws passed by Congress. I will assure that I receive effective briefings on the legislative history for the provisions of federal law that drive the regulations and procedures that NOAA is charged to implement. I will supplement these briefings with my own inquiries to other interested parties where appropriate, and I will encourage NOAA's receipt of communication from all stakeholders interested in an issue. I will proactively seek counsel from Senate and House committee members and their staff on the issues related to their oversight or special interests, on a continuing basis. I will ask the Commerce Department and NOAA legal and legislative affairs personnel to keep me briefed on the background of each important issue, and the obligations that each such issue imposes upon NOAA.

13. In the areas under the department/agency's jurisdiction, what legislative action(s) should Congress consider as priorities? Please state your personal views. With the exception of one matter described below, I do not believe that I currently have the information necessary to provide Congress with meaningful recommendations about priority legislative actions affecting NOAA's mission. I would be prepared to present my views within 3 months of taking up my new appointment if confirmed.

I consider one matter to be so compelling that it is worthy of note at this time. It is my personal observation that federal government positions are not seen as a desirable long-term career choices by many of "the best and the brightest" scientific and technical personnel, especially recent university graduates and other early career individuals. This represents a degradation of opportunity for public service compared to the perspective I felt as a young scientist in the 1960s and 1970s. I would be honored to work with the Committee to address this question, which is critically important to assuring excellent environmental stewardship by the staff of NOAA and other federal science oriented agencies in the future.

14. Within your area of control, will you pledge to develop and implement a system that allocates discretionary spending based on national priorities determined in an open fashion on a set of established criteria? If not, please state why. If yes, please state what steps you intend to take and a timeframe for their implementation. I am pleased to work under the direction of NOAA Administrator Admiral Lautenbacher, to develop and implement a system that allocates discretionary spending based on national priorities determined in an open fashion on a set of established criteria. I will fully support Admiral Lautenbacher in his objective to complete an internal review of NOAA organization and programs within three months, and developing and publishing implementation plans and priorities within the following three months.

Senator KERRY. Thank you very, very much, Dr. Mahoney.

I appreciate your comments, and I think every Member of the Committee would agree that the description of the involvements that you've had could not more effectively prepare you for the task that you're going to undertake here, so we certainly welcome that.

Let me just ask some pro forma questions with respect to the nomination process.

Is there any item or issue that the Committee should be aware of that might present you with any kind of conflict of interest in the performance of these duties?

Dr. MAHONEY. Senator, no, nothing at all that I would think of.

Senator KERRY. And in the course of the preparation for this, is there any holding or asset that you've had to divest of in order to put yourself in a position to perform these responsibilities without conflict?

Dr. MAHONEY. No. I believe there's one stock holding of a few thousand dollars note which caused me to—because it exceeded $5,000—classify it into a different category in reporting on the financial disclosure forms, but virtually all of my other assets are in home, broad-gauged mutual funds and other investments of that sort, so I have no particular holding which was a problem.

Indeed, the one holding which, I'm happy to say is slightly up, at $6,000 or so, as I've already reported to the Office of Government Ethics, I'll simply sell if that's seen as a problem at all.

Senator KERRY. So it sounds like you're commending yourself also for your good judgment because you don't hold Enron or K-Mart.

[Laughter.]

Dr. MAHONEY. I can report I've never owned either.

[Laughter.]

Senator KERRY. Doctor, let me ask you about the responsibilities of your position. Have you and the Administrator, Admiral Lautenbacher, divided up how you're going to proceed, in terms of the management issues? I mean, can you tell the Committee what particular responsibilities at this point you will be assuming, versus he?

Dr. MAHONEY. Yes, I'm delighted——

Senator KERRY. Let me also add to that the question—he obviously comes with a background with respect to the ocean component of this. You come with an atmospheric component of it. I think some of us are concerned about where the live marine resources fit in between the two. And maybe you could share with us a sense of how that will lay out.

Dr. MAHONEY. I'd be delighted to, and I'm delighted that Admiral Lautenbacher is here in the room so that—of course, when one speaks about what one's boss wants to do, it's important that we be in the same space.

But as we were requested to have an opportunity to visit with one another when the Administration aimed to proceed with the process of nominating Admiral Lautenbacher for Administrator and potentially nominating me to be deputy. So Admiral Lautenbacher and I began discussions.

We both took a view that, based on our management experience in different sectors, of course, over a long time, we felt that NOAA and the nation would be best served if both of us viewed that we had a somewhat classic number-one and number-two deputy role, which is that there be a good deal of overlap and backstopping rather than a pigeonholing into the wet ocean and atmosphere, for example, even though we clearly want to work to our strengths in those areas where they exist.

We would acknowledge in this—and I would, certainly in response to your question—I am not a fishery marine biological expert at all, and nor is Admiral Lautenbacher in his career. We're delighted to have, in Dr. Bill Hogarth, a very strong head of the marine fishery program. And one thing we know for sure in our sense of management is that both Admiral Lautenbacher and I will pay a great deal of attention to this area. And Dr. Hogarth will have a great lead.

There's one other particular aspect I would mention in my own background. Having had some decades of environmental management experience, I'm very sensitive—as I know Admiral Lautenbacher is, too—but my direct working experience has been very frequently with the public review and decision process about environmental matters which go to permits, public actions that are sometimes public granting actions, other times public restricting actions. So it's somewhat second-nature for me to be looking at circumstances where complicated issues have to come down to public decisions in the end. And those must always listen carefully to the views of the stakeholders, and then the decisions should be very transparent, in the sense that their basis should be open.

So I'm sure I—and I know Admiral Lautenbacher, too—by our commonality in approach, will be very sensitive to this kind of play. So we will be strong observers of the management process for the fisheries issues. We'll work very closely with Dr. Hogarth, of course, in carrying that out.

Senator KERRY. Well, let me just say to you very quickly, then. I want to let my colleagues have a chance to ask some questions. I have a couple more questions, but I appreciate what you've just said, and I think it probably makes the most sense to have that kind of deputy relationship where there is cross-fertilization.

The key concern to this Committee—I mean, in the 18 years that I've been involved with the fisheries issues—and Senator Hollings, a lot longer, and Senator Stevens and Senator Inouye and others on this Committee—there's been a deep disappointment. You know, each year that we do the Magnuson or each year that we structure—every few years when we do it—we wrestle with this question of keeping the democracy of the councils where local input, local decisions, are able to be made and people are really controlling their own destiny, balanced against the inevitable, parochial tensions that prevent decisions from being made at all. And to some degree the predicament of our fisheries on a national basis is the unwillingness of people to resolve those issues and bite the bullet.

A number of years ago, we empowered the Secretary—and obviously you, through the Secretary—to intervene in a way that makes the difference. It's disturbing to me that a court is going to settle a Council issue now. I mean, that's just not what we intended. It's not the way it ought to work.

So we're very concerned that the agency really step up on this. And if you don't have the science, then we've got to get the science. And that's something we tried to augment in the budget last year.

But I wonder if you'd just comment quickly on that, because there is a frustration, and we are going to be doing Magnuson again, and we need to come to grips with this issue.

Dr. MAHONEY. Thank you, Mr. Chairman, I'd be glad to.

Let me start by wrapping in the comments that Senator Wyden mentioned in his opening comments and that we discussed in his office yesterday, which is the strong bias toward action and the—I think I wrap in the same comments in your case here.

On the matter of taking action and taking on the tough issues, I'm very comforted by the experiences of the whole chain through Secretary Evans on down into NOAA here.

Secretary Evans himself has clearly shown a great emphasis on good government and taking action and making decisions.

Deputy Secretary Bodman, of course, comes into his post after a long career at the top level in corporate management in the country and is very action oriented. I know that Admiral Lautenbacher is, and I will assert that I am, too. And I think you've given clear direction, by these questions and by many other communications I am aware of, that you're looking for things to come from NOAA and ultimately from the Commerce Department here. So I'm sure that those comments are heard and will be responded to.

Senator KERRY. Thank you very much, Doctor, I appreciate it.

Let me just say to everybody we want to try, if we can, to expedite so we can get into the CAFE hearing.

Senator Wyden.

Senator WYDEN. Thank you, Mr. Chairman. I just have a couple of questions.

First, Dr. Mahoney, thank you for being forthcoming on this important nomination, again.

Speak for a minute, if you would, to those fishing families, say, on the Oregon coast, like in Newport. They are looking to deliver a buy-back program so that you get the right number of people at the right time, catching the right number of fish, so that there's a sustainable resource.

Speak to them just for a moment of what you're going to do to deliver that.

Dr. MAHONEY. Well, Senator Wyden, I'm sure you can understand that since I am not even in position and have not had a chance to be rounded in the issues, I feel obliged to be cautious. I think it would be injudicious and wrong for me to simply say, "I believe we can do the following." I think that the issue for fishing families on the Oregon coast is a very deep and pressing one. I think it's an example of the sort that we have sometimes in other cases in this country, too, and we have to find, as a nation, the right mix of public-private initiatives to care for these problems of long standing. I don't think it minimizes the problem for the fishing families there to note that similar issues relative to coal-mining families, to other one-industry-town families, have occurred across the country.

So I believe that the public sector should—the government should judiciously look at the opportunities to help while remaining true to the principles of the kind of society and economy we have in the country to make a difference. And I think beyond that I would be injudicious to try to talk specifically because I don't have a rounding of the issues.

I'd be delighted, Senator, to build on this, to work with you and your staff and others on the Committee and, as you asked, to come

back more specifically on the same points as I feel I'm better grounded.

Senator WYDEN. Well, I think that's fair. And obviously I'm just looking to see that you've got a commitment and that you're going to follow up. And it's fine to assert that this is preliminary, and there is no question that it is. I want to ask you about one other matter.

This question of bycatch is critical because a tremendous number of fish are being wasted. It's an incredible public disgrace at a time when we don't have all the fish that we need for any kind of a sustainable resource. We're wasting. We bring them to shore and we throw them aside.

Your predecessors didn't follow up on this program. What are you prepared—again, on the basis of the fact that you can't make any specific commitments—to do, in a general way, to follow up on this issue?

Dr. MAHONEY. Senator Wyden, I'm delighted to say, first, this issue has been called to our attention. Your questions, over some period, certainly caused this to be briefed to me before coming up here.

I know that I will—I am committed to respond to you.

I know that Admiral Lautenbacher is committed to respond to you and I'm certain that we will take action on the issue in the ways that seem to be appropriate. Again, I'll draw the full stop on trying to commit to any specific action. But on the question of responsiveness, I feel it's very important that, in this public setting, we say we hear you on a very important issue and we will be responsive.

Senator WYDEN. I'll wrap up with this. If and when you're confirmed, and you'll have my support, can I get a call from you in 2 weeks to give me more specifics on both of these questions?

Dr. MAHONEY. I hear you. The answer is yes, sir.

Senator WYDEN. Great.

Thank you, Mr. Chairman.

Senator KERRY. That's always the best way to get a phone call returned I've ever heard of around here.

[Laughter.]

Senator KERRY. Senator Dorgan.

Senator DORGAN. Mr. Chairman, thank you very much. Dr. Mahoney, one of your 4-year-old daughters has been waving at me back there.

[Laughter.]

Senator DORGAN. So I will support your nomination.

[Laughter.]

Senator DORGAN. Can you tell us their names, by the way?

Dr. MAHONEY. Caitlin and Courtney—two Cs.

Senator DORGAN. Well, that's a surefire way to get confirmed is to bring two young ladies like that to our hearing.

[Laughter.]

Senator DORGAN. I am really pleased to support your nomination. I think you have an excellent background, and I look forward to working with you.

I did want to mention one issue to you, and I'm not doing it in a way that's unfair to you. I know that you will not have known

of this or studied it, but I know that Admiral Lautenbacher is in the room, and I believe Sam Bodman is here.

I received a call last night from Williston, North Dakota. We've had a long, tortured problem between the National Weather Service, NOAA, and Williston, North Dakota. I'll just describe it in 1 minute.

You know we put in a series of NEXRAD radars in the country. They didn't put very many of them up in our part of the country, so the one that serves northwestern North Dakota and northeastern Montana is in a place called Deering, North Dakota. That's 130 miles away from Williston.

Well, it shoots radar in a way that it is not able to see storms below 12,000 feet. These low-formation, quick-moving winter storms are killer storms, and yet we were going to be left out of radar coverage for those kinds of storms with NEXRAD. And so the weather service at first denied it, but all the experts studied it and said, yes, this is an area of significance. So they've kept the Williston weather radar open for the last 4 or 5 years until they complete all these other studies.

Now, I received a call last night saying that they've gone from 6 people to 4 people. They've shut it down from midnight to 6 a.m. The people they've interviewed to try to replace them, the weather service has said to them, "By the way, you know, we might shut this down in the future, and we don't pay moving expenses, so we're interviewing you for a job you might not want to take." And, of course, they've not had any takers.

I think there's been a lack of good faith here on the part of some people, and I'd like to work with you and with Admiral Lautenbacher and Sam Bodman to see if we can resolve this. I'm going to be calling their offices today, but I did want to mention this to you.

It's not a small issue. Williston, North Dakota, and the people who are ranchers and others who live in that part of North Dakota and Montana have as much right to accurate and good weather forecasting and weather radar as someone in New York or Chicago. We have as much right to that. And it was represented that would be the case. But, in fact, it is not the case with the NEXRAD system, and we have, frankly, not had the kind of help that I would have liked from the National Weather Service and NOAA in the past several Administrations.

So I'd like to work with you. I raise that only because this is the time and place to raise it. I just received a call again yesterday, and I was surprised again by the latest information.

So thank you. Thanks for offering yourself to public service. Thanks for bringing your daughters to this hearing, and I look forward to working with you, Dr. Mahoney.

Dr. MAHONEY. Thank you, Senator, very much, and I hear you on the issue and will look forward to responding.

Senator KERRY. Thanks very much, Senator Dorgan.

Senator McCain.

Senator MCCAIN. Congratulations, Dr. Mahoney, to you and your family. We look forward to working with you. Do you believe that climate change is real?

Dr. MAHONEY. A simple answer, Senator, yes.

Senator MCCAIN. Do you believe it's a severe situation?

Dr. MAHONEY. My answer gets a little bit longer when we talk about "severe," because that's such a comparative word that I think it can only be couched some ways. I believe it's fair to call it a serious or severe problem or concern for the world society.

Senator MCCAIN. Have you seen the latest National Academy of Sciences assessment? That was the strongest language that I have seen.

Dr. MAHONEY. Yes, I have, Senator.

Senator MCCAIN. Do you agree with that?

Dr. MAHONEY. Generally, yes.

Senator MCCAIN. Why do you suppose that there is still a large body of opinion in America that refuse to recognize this reality?

Dr. MAHONEY. My sense, Senator, runs along two lines. One, the findings and implications are so important and profound that it bears well that skeptics and those who might have other views be heard well—not forever, but for some time—because the implications of the actions that may be necessary are very strong, as we know.

So I think in the—and I say this somewhat in the science-process sense—even in view of the Academy's report, I don't think it's the first time ever that we might have a circumstance where the best scientists might find something and certain data might arise in the world that would cause that feeling to be somewhat colored in the next few years.

And I'm not trying to duck the issue, but I'm saying, on the one side, just on the science issue, there's a place to have a bit of real caution, even when there—even, and maybe almost in particular, when there's a—when we might characterize a 95-percent agreement with some well-known percentage on the other side.

The second is that I believe that it's a different matter to deal with what the responses and actions should be. And I think very much of this triad that we have of the science and all of its manifestations and its uncertainties—and I should stress I don't mean uncertainty as a surrogate to say don't act; it's just a fact of life that there are these uncertainties—and we have the related technology issues of what can we do differently. But then there are, in their own rights, fundamental questions, of course, of economic security and energy security, certainly for our nation as the world leader, but for the whole world, too, because the mitigation strategies may impede the development of societies everywhere in the world—in many cases, most often in the underdeveloped countries.

Senator MCCAIN. I hope you'll give this issue the priority that it deserves, which is the highest priority.

Finally, do you believe that the oceans of the world are becoming polluted to an alarming degree?

Dr. MAHONEY. Senator, yes, with the caveat that we have some cases of improvements in some coastal zones, which is worthy of note, but that the broad state of the oceans is one that needs repair.

Senator MCCAIN. Thank you.

Thank you, Mr. Chairman.

Senator KERRY. Thank you, Senator McCain, for those important questions.

Senator Nelson.

Senator NELSON. Mr. Chairman, I just want to follow up Senator McCain's line of questioning and thank him again for being very bold on a number of questions and daring to tread in certain areas that otherwise might not think that someone in his party would do. And I appreciate that boldness. And what Senator McCain——

Senator Kerry. Senator McCain thanks you for putting him on the spot.

[Laughter.]

Senator NELSON. Well, what he speaks is truth. And even though it doesn't dramatically affect his state of Arizona, it sure affects my state of Florida, because the rise of the oceans, the increase of the temperature, the increase of pestilence, the increase of tremendous storms called hurricanes, and so forth. And, you know, we'd best get about the process of recognizing that, in fact, we do have a problem and stop sticking our heads in the sand. I thank the Senator from Arizona for raising the issue.

Senator KERRY. Thank you very much, Senator Nelson. And I thank all my colleagues.

Senator Breaux.

Senator BREAUX. Thank you, Mr. Chairman.

Thank you, Dr. Mahoney. Welcome to the Department of Commerce and particularly to NOAA. You have a tremendous background, educationally, with a Ph.D. in meteorology, and that's going to be very important to your work over there. I was just wondering, do you have an idea, with Admiral Lautenbacher, how you all are going to divide up the fisheries areas? I mean, this is not your area of background. It's more in the weather service and meteorology, which is incredibly important. But also in the fisheries areas, which is important, as well, have you all had discussions on how those areas are going to be divided up?

Dr. MAHONEY. Yes, sir, Senator Breaux. We had a discussion a little while ago about this, too, and I'll give, hopefully, a quick answer, knowing you've got a full morning here, but I'm delighted to elaborate, now and later, as you may want.

Admiral Lautenbacher and I have had the, of course, discussions about the management, overall. As number-two, I can be very clear. Number-one is the boss, of course, and will do things the way that he determines in the end.

But we have looked at what I would consider to be a fairly conventional leader and deputy circumstance where both of us should have a very broad purview, because this provides a certain amount of redundancy in coverage, overall.

While we acknowledge Admiral Lautenbacher has a strong oceans background, obviously, and I do have an air background, neither of those are directly the marine biology and fisheries background which is of great interest to you and many on the Committee, of course.

Our approach about that is, I think, a couple of key things. First, we take the responsibility of oversight very strongly. Second, we have a very strong leader in Dr. Bill Hogarth, who will be very much front and center on these issues, but with my involvement and that of Admiral Lautenbacher, as well. And, third, most of the fisheries issues certainly have to be addressed by experts, but they

are ultimately environmental and community-management problems that touch the economy and the livelihood and it would call on science and observation for definition.

I have decades of being imbued in the process of this kind of environment management, and a modest amount of fisheries management background like this, as well. So I'm sure we'll be looking at trying to help strengthen NOAA's approach to addressing being open and transparent about these issues and getting resolution and trying to move in very tough areas which are a combination of observation science about the state of health of the fisheries and ultimately have to be economic an public decisions that affect people in local economies.

Senator BREAUX. Well, I thank you for understanding those issues. I think that while you are an expert in weather and you know the violence of a summer thunderstorm, I would suggest that you really haven't seen anything violent until you've been through a shrimp meeting on the turtle excluder devices in south Louisiana. You may want to steer clear of that to the extent that you can. But thank you very much.

Dr. MAHONEY. Thank you, Senator.

Senator KERRY. Senator Breaux, thank you very much.

I think all of that said, a few years ago, I commented to somebody that if you ever wanted to do a perfect study on government regulatory process and the difficulties and the varied forces pulling and tugging, the fisheries are perhaps one of the most ideal. It is complicated.

But what is not complicated is understanding that the consequence of the inaction that comes from not making some choices between those tensions is disastrous. And we've seen that.

And we've got 60,000 acres of clam beds closed in Massachusetts. We've got, as you know, the Georges Banks. You know, we lost our striper fisheries a number of years ago. We brought it back by shutting it down. For almost 10 years, there was no fishing. Now people are going out and catching, you know, regulation-size stripers, and we brought it back.

So it just isn't that complicated to understand. What's lacking is not the solution, it's the willpower to put it in place. And so we really are going to look for you to try to help us do that.

And we're going to now move into a component of the morning's business that reflects questions of Senator McCain and Senator Nelson's concern, which we all share. There's been a lot of procrastination about how we ought to make some choices with respect to emissions and global gases, and a lot of people's patience is wearing thin on it. We're going to talk about that momentarily. But we really do look to you for leadership and guidance with respect to those issues also.

Dr. Mahoney, you are going to be confirmed, and we're going to try to move this through as rapidly as possible and get you on the job. And we really are appreciative for your coming here this morning. We're appreciate for the fact that you're willing to serve, and we're grateful to your family for their support and for their willingness to also have you serve. So we thank you very much.

Dr. MAHONEY. Thank you, Mr. Chairman. Thank you all for your questions and hearing me out.

Senator KERRY. Thank you.
[The hearing was adjourned at 9:55 a.m.]

A P P E N D I X

PREPARED STATEMENT OF SENATOR JOHN MCCAIN

Mr. Chairman, I would like to thank you and Chairman Hollings for holding this morning's hearing on the nomination of Dr. James Mahoney to be the Assistant Secretary of Commerce for Oceans and Atmosphere and Deputy NOAA Administrator. I appreciate your willingness to work with myself and others on the Committee to give consideration to this important nomination in such a timely manner.

NOAA is the primary federal agency involved in activities that affect the everyday lives of Americans from predicting the daily weather forecasts to protecting our nation's vital fish stocks. By predicting future droughts, storm fronts, tornadoes, and hurricanes, NOAA also has an important role in ensuring our nation's safety and economic well-being. Given Dr. Mahoney's experience in running major organizations in the private sector and the government, I am sure that he will do an excellent job as the Deputy Administrator for NOAA.

One issue of particular interest to me is NOAA's groundbreaking work in research in the effects of global warming on the Earth's climate. Recent events, such as the discoveries in Antarctica, increased coral bleaching, and the National Academy of Sciences' report last year, underscore the importance of collecting accurate data and designing comprehensive models that measure changes in our climate, and its effects here on Earth. While I appreciate all of the hard work of NOAA's scientists involved in this effort, I recognize that a significant amount of research remains before we can fully understand the complex and dynamic relationships between the atmosphere, the oceans, land, and mankind. I look forward to working with you, Dr. Mahoney, to ensure that the U.S. research contributions to this global problem are helpful and adequate.

Again, thank you , Mr. Chairman, for holding this hearing and I look forward to quick action on this nomination.

WRITTEN RESPONSES BY DR. JAMES R. MAHONEY TO QUESTIONS FROM SENATOR JOHN MCCAIN

Question 1. It is my understanding that you have extensive experience in the meteorological, hydrological, and oceanographic areas. As you may be aware, I have introduced legislation in the area of climate change and continue to work on legislation that would establish a national "cap and trade" program. One of the issues that we are trying to address is at what atmospheric level of carbon dioxide should we be targeting.

Based upon your experience, do you have any thoughts on what that level should be to alleviate these climate change concerns?

Answer: Global average atmospheric CO_2 concentrations have risen approximately 25 percent in the past 100 years, or approximately 2.5 percent per decade. Climate science has not established any specific "safe" levels for CO_2 concentrations, which appear to be higher now than at any time in the past 400,000 years. CO_2 concentrations are projected to continue increasing throughout the next century, absent more stringent levels of global CO_2 emission controls.

Attempts to establish a future target level of CO_2 concentrations will involve substantial uncertainty and debate. Three categories of issues need to be addressed:

1. *Scientific Questions:* We need better knowledge about "purely scientific" issues such as the relationship between CO_2 concentrations and several global and regional climate parameters (e.g., temperature and precipitation patterns, severe weather frequency and intensity, etc.) as related to global changes in CO_2 concentrations.

2. *Value and Goal Questions:* How should a target level be defined? For example, should the target level be one that results in (a) long-term stable climate conditions; (b) more moderate expected climate changes—facilitating adaptation or (c) other outcomes?

3. *"Integrated Assessment" Questions:* Climate questions are inevitably related to economic and energy security questions that must be addressed by all nations. As climate science continues to improve, the "purely scientific" evaluation of target levels will necessarily be linked to considerations of economic and energy outcomes for all nations.

I believe that informed national and global discussions about all three of these categories of questions should be an integral part of the debates about target levels for CO_2 and other greenhouse gases.

(b) Do you believe that the current computer modeling program by the government is sufficient to support decisions on this area?

Answer: I believe the current U.S. climate modeling program is good, but is not sufficient to support the full range of policy analyses and decisions on climate change issues that must be addressed now and in future years. Given the importance of U.S. leadership in evaluating climate change issues, our nation should maintain a best state-of-the-art capability in climate modeling. Our current modeling program is not yet at this level. In particular, we need abundant computational capability to develop, test and operate the continuously improving climate models, and to broadly apply these models to global and regional scale climate studies. Moreover, the U.S. needs adequate high-end computing capacity to support the large group of researchers and policy analysts who seek to apply the best climate models to a wide range of highly important assessment scenarios.

I agree with the principal findings of the National Academy of Sciences which has issued two recent analyses of U.S. climate modeling capability: The *Capacity of U.S. Climate Modeling to Support Climate Change Assessment Activities* (1998); and *Improving the Effectiveness of U.S. Climate Modeling* (2001). These Academy reports have identified the following priorities for improving climate modeling capabilities in the U.S.:

- Robust support for the strong U.S. basic climate research enterprise, combined with a high level of resources for climate model "production capability" needed for routine and specialized climate projections. Exploratory research, frequently conducted by single investigators or small groups, is a key source of much breakthrough knowledge about climate and earth systems. Both the basic researchers and the "production modelers" need a long-term resource commitment for the best state-of-the-art climate modeling capability.
- A robust and flexible capability to produce high-end climate model simulations and projections for many different applications communities (e.g., economists, energy traders, industrial planners, etc.) that are increasingly becoming involved with climate analysis.

Question 2. Scientists recently announced that temperatures on the Antarctic continent have fallen steadily for more than two decades. They seem to be at a loss as to how to explain this. They further noted that the research does not change the fact that the planet has warmed up on the whole. The research simply points out that the Antarctic is not responding as expected. Do you have any thoughts on these findings?

Answer: Global average temperatures have increased at a rate approximately 0.6°C per century since 1900. In the past 25 years the global average temperature has risen at a rate approximately 3 times faster than the century-scale trend. However, temperature records from surface observing stations in Antarctica do not reflect this increasing temperature trend. This difference may be partly due to the scarcity of surface observing station data for Antarctica, especially since 1992 when the number of observing stations dropped significantly in Antarctica. Depending on the data sets and analysis methods used to calculate average temperatures, the 1976-2001 trend in annual average temperature in Antarctica is approximately zero (i.e., no net trend) by one analysis method, and a cooling by approximately 0.4°C per decade using another method. A significant short-term cooling is suggested by 1992 and 1993 data, but this may be related to the reduction in the number of observing stations at this time.

The Antarctic continent is approximately 50 percent larger than the land mass of the United States, but there have never been more than 30 surface observing stations operating on the continent. The majority of these stations are located along coastal areas. By comparison, the United States has an observing network of thousands of stations together with excellent satellite coverage. The potential uncertainties related to the small number of observing stations can be illustrated by a comparison of winter (June-August) temperature trends on opposing sides of the Antarctic continent. From 1976-2001, eastern winter temperatures decreased (-0.5°C per decade), while western temperatures increased (+0.3°C per decade) during the same period.

Several other considerations also suggest that temperature trends in Antarctica may not be correlated with global average temperature trends. The general atmospheric circulation in the region of the Antarctic continent is relatively isolated from the rest of the global atmosphere because of the strength of the Circumpolar Vortex (the upper air wind pattern) throughout much of the year. Another possible illustration of the relative isolation of Antarctica is suggested by paleoclimate data developed from ice core analyses for Greenland and Antarctica. Significant warning occurred in Greenland approximately 36,000 to 45,000 years ago and this warming lagged behind Antarctic changes by approximately 1,000 years. I also note that the Intergovernmental Panel on Climate Change (IPCC) has suggested that sluggish ocean heat transport circulation may be particularly important in understanding temperature change at polar latitudes.

Question 3. You have mentioned in pre-hearing questions that one of your goals is to work with the NOAA Administrator to build upon NOAA's strengths of personnel, technology, operational systems, and institutional experience. In recent testimony before the Commerce Committee, Dr. John Marburger, the Director of the Office of Science and Technology Policy, highlighted the need for more diversity at all ranks of the science and engineering workforce. Do you feel that this need exists at NOAA and if so, what are your objectives in the personnel area?

Answer: I believe that enhanced diversity is essential for developing and maintaining a talented scientific and engineering workforce in our society. Moreover, encouragement of technical careers for currently underrepresented sectors of U.S. society constitutes one of the most effective investments in the human and economic capital of our nation. I am gratified that during my term as President of the American Meteorological Society, the AMS greatly expanded its recruitment and scholarship support for minority students interested in the atmospheric, oceanographic and hydrological sciences.

The federal government should be a clear leader in fostering diversity among its technical personnel and NOAA, with its high percentage of advanced technical personnel, should be at the forefront of the federal government activities. I am pleased to note that NOAA and the Department of Commerce will be expanding their partnerships with Minority Serving Institutions (MSIs). NOAA's current (FY2002) budget includes $15 million to fulfill the mandates of Presidential Executive Orders for Historically Black Colleges and Universities, Hispanic Serving Institutions and Tribal Colleges and Universities. NOAA designated four Cooperative Science Centers in October 2000 at institutions with established degree programs in Atmospheric, Oceanic and Environmental sciences and Remote Sensing.

I believe that NOAA has a generally good track record for fostering a diverse and competent workforce, but further improvement must always be our goal. NOAA management at all levels from the top down must be proactive in two broad categories: (1) sustaining a culture that insists on diversity and merit-based opportunity for all, as a high priority value, and (2) encouragement of specific initiatives that can improve diversity in all categories of the NOAA workforce. If confirmed, I shall fully support Admiral Lautenbacher and the entire NOAA management team in our proactive commitment to promoting diversity throughout the agency.

Question 4. What are your views on the current process used by the government to determine the research priorities for climate change research? Do you feel that changes are necessary to strengthen the role of the U.S. Global Climate Change Research Program?

Answer: I believe the U.S. Global Change Research Program (USGCRP) has generally been well managed *as a research enterprise,* with the benefit of scientific program planning that has involved many of our nation's leading researchers. However, I believe that the fundamental (and increasingly important) *assessment mission* of the USGCRP has not received sufficient attention and priority. In a similar vein, the National Academy of Sciences has also faulted the program for its inadequate ability to focus resources on priority areas.

I advocate the use of a well-defined and broadly communicated assessment plan as an essential tool for future program planning for climate change analyses. My views about the importance of a high quality assessment plan were developed as "lessons learned" while I served as Director of the National Acid Precipitation Assessment Program (NAPAP) from 1988 to 1991.

In my view, a comprehensive assessment plan is much broader than a research program plan. A research plan generally focuses on the *study of phenomena* (such as climate change measurements, hypotheses and models), with a goal of improved understanding of scientifically based cause-and-effects mechanisms. An assessment plan focuses on the *outcomes of strategies*, and should include specific consideration of economic and energy security issues, as well as other policy outcomes of an array of strategies being studied. A comprehensive assessment plan will beneficially influ-

ence the selection of scientific priorities in global change studies, by focusing research on the key outcomes that need to be understood. I also support continued exploratory research (i.e., not focused on specific outcomes) as an essential component of the USGCRP. Continued scientific inquiry into a wide range of global climate issues should continue to receive long term support.

Question 5. What are your thoughts on the National Academy of Science's recommendation for a National Climate Service who would coordinate a global weather observing system?

Answer: The National Academy has recommended improved and more comprehensive climate services, but has not specifically recommended a National Climate Service. The Academy recommendations included: well coordinated use of the nation's array of weather and climate observation systems; improved capabilities for research, technology infusion, modeling and prediction; and regional interdisciplinary approaches to climate services.

I believe that a high degree of coordination of federal, state and local government resources, combined with private and academic sector capabilities, will be needed to provide climate services for the nation. I am pleased to note that NOAA recently linked its NWS, NESDIS, and OAR units in a Climate Observations and Services Program to provide more integrated climate services. This is one key building block in the development of more coordinated national climate services. I look forward to working with my NOAA colleagues in the development of other federal, state, local, private and international partnerships to enhance this collaboration. The goals for our comprehensive climate partnership should include: improving observational accuracy, consistency and overall coverage based on the resources of all the partners; assuring long-term stability in climate observing systems, to facilitate the analysis of long-term trends; and enhancing efficiency in delivering climate services to all interested users. I believe that integrating and broadly improving all of our nation's climate service resources is an important mission for NOAA and, if confirmed, I will work with Admiral Lautenbacher and the NOAA management team to fully address this mission.

Question 6. One major program under NOAA's responsibility is the National Polar-orbiting Operational Environmental Satellite System (NPOESS). This program is funded through both the Department of Commerce and Department of Defense. Based upon your management experience with large scientific and technical organizations, do you have any thoughts on how to improve the workings of this program?

Answer: This unique program was established by a Presidential Decision Directive and implemented by a tri-agency (DOC/NOAA, DOD, NASA) memorandum of agreement that established clearly defined requirements, agency roles, and coordinated management structures. Based on the reviews I have undertaken to date, I believe that the NPOESS program is currently on track to achieve the significant savings projected when the program was initiated. In addition to substantial cost savings, I also believe that NPOESS is providing major benefits in the cross-fertilization of technical and management experiences among the partner agencies.

My management experience suggest that every long-term program operating with joint agency sponsorship needs at least three conditions to achieve its goals and to avoid the inefficiency that could result if inadequate project control or communication were to develop:

- Continuous commitment and support from the senior management of each of the sponsoring agencies.
- Clearly understood program management lines of authority, reinforced by frequent program reviews.
- A real sense of partnership, and commitment to achieving common goals, throughout the program management and contractor personnel.

I believe these three elements are currently in place for the NPOESS program. The continued attention to NPOESS at the senior management level in each sponsoring agency will help ensure the program continues to maintain its focus as it matures, to assure that NPOESS continues to meet its stringent cost, schedule and performance requirements.

While NPOESS has benefited from its unique access to the best resources of its sponsoring agencies, I believe the issue of multi-year budget coordination between the executive branch and Congress will need continued attention. The Office of Management and Budget ensures that the DOC and DOD budgets are consistent when submitted by the President to Congress. However, Congressional review of the NPOESS program is divided among several authorization and appropriation subcommittees. I believe that NOAA/DOC, DOD and NASA must remain proactive in assuring good communication with the various congressional authorization and appropriation subcommittees with responsibilities to oversee the NPOESS program. If

confirmed, I look forward to working with Admiral Lautenbacher and the NOAA management team to assure that NPOESS is an excellent example of interagency collaboration, as well as executive and legislative collaboration.

Question 7. Over the past few years, there has been some controversy about the role of the National Weather Service as it relates to commercial providers of weather forecasting information. Could you please explain your thoughts on what Weather Service services should be provided by the National Weather Service, and which should be provided by private forecasters?

I note that NOAA has recently asked the National Academy of Sciences to review this question, i.e., the roles of government, the private sector and academia in providing weather and climate information to the nation. Considering the importance of weather and climate information to our country, and considering the partnership that already exists between NOAA and the private sector, I believe any suggested changes in roles should be examined carefully in a forum open to the many stakeholders affected.

I believe that NOAA and private sector interests have made substantial progress in resolving many public/private responsibility issues during the past 10 years. The following overview comments reflect my views on the continued evolution the public/private partnerships in weather and climate services.

- NOAA has a fundamental responsibility for the protection of human life and property, and should retain its role as the source of all severe weather and flood warnings, to assure consistency and to avoid confusion during alert conditions.
- As a public agency, NOAA must always be open to consideration of privatization of any functions that do not impair its ability to meet its critical public missions.
- Proposals for privatization of NOAA functions must be evaluated with a particular emphasis on assuring consistent and reliable long-term performance of such functions.
- NOAA should continue to provide any of the data, information and analysis products it amasses at public expense to all interested users, on a rapid-dissemination basis, at the marginal cost of the dissemination alone.
- NOAA should continue a robust program of weather and climate forecasting services. Forecasting and verification activities provide essential feedback needed for the continuous upgrading of observing, data assimilation and computer modeling capabilities.
- NOAA already has a very well developed array of partnership activities, with both private sector and academic institutions. These should be continued, and should be considered as possible focuses for improved partnerships in the future.

If confirmed, I will look forward to working with the Committee to examine the results of the National Academy study when it is completed, and to consider any proposed changes to the existing partnership arrangements.

Question 8. Because of the long development time needed for major programs, new technology is frequently not included in programs as they are brought on-line. For example, the Geostationary Operational Environmental Satellites (GOES) reportedly operate using 386 and 486 processors. What changes would you suggest to ensure that new technology is incorporated into major programs, while also ensuring that the programs remain interoperable with older technology?

Answer: As you state in the question, this problem has two aspects—the need to keep up with technology improvements, and the need to continue operating installed systems and serving users who choose not to upgrade. This challenging problem is exacerbated by the long development and deployment times for complex systems such as satellite observing platforms and nationally deployed radar systems. Moreover, the measurement and data communication protocols from these long-life systems must be suitable for processing by multiple users, further complicating the problem. The issue of technology upgrades combined with backward compatibility is common to many long-term systems operated by government units (DOD in particular) and throughout the private sector. I believe that NOAA has made significant progress with technology upgrade issues in many cases, but needs to use its past experience to make further improvements. I suggest the following guidelines for addressing this long-term issue:

- The culture of anticipating technology upgrades, combined with backward compatibility, should be established as a common basis for system development, design and implementation. This culture should have a particular focus on the opportunities for improved information processing technologies, because the rate of improvement in information technologies continues to be very steep.
- NOAA should specifically incorporate product improvement planning as a line element of all long-term system development and design activity. This planning should include a "lessons learned" perspective developed from experience with cur-

rent systems. DOD uses a Pre-Planned Product Improvement (P3I) approach that may provide a useful model for NOAA.

• NOAA should continue to buildupon its several ongoing programs that systematically insert new technology into existing systems. For example, I understand that NOAA has budgeted approximately $50 million annually to update the ground systems supporting NOAA satellites to ensure that data processing, transmission and archiving capabilities maintain pace with technology. Also I support the planned product improvement programs that NOAA has already initiated for several systems, including the Advanced Weather Interactive Processing System, Next Generation Weather Radar, and the Automated Surface Observing System.

Question 9. It has been reported that NOAA currently receives more data from its satellites than it can process and incorporate into its weather and climate models. What recommendations would you make for upgrading NOAA's capability to handle the data it receives?

Answer: In addition to its use of current research and operational satellite data to support weather and climate models, NOAA must prepare for the ongoing, substantial increase in satellite data expected throughout the next 10 years. NOAA must ensure that the communication infrastructure is in place to sustain the flow of data from satellites to the operational forecasting components of the National Weather Service. NOAA must also continue to increase the computational power required for the assimilation of this data into the operational climate and weather models. Furthermore, NOAA must increase its efforts in the research, development and design of improved data assimilation systems that can extract the most useful satellite data needed to support the ongoing advances in climate and weather forecast models.

I understand that NASA and NOAA have recently joined forces to form a "Joint Center for Satellite Data Assimilation" for several purposes: (1) to accelerate the use of research and operational satellite data in weather and climate forecast models; (2) to assess the means for extracting the most information from satellite data for use in the forecast models; and (3) to show the extent to which these data can be used to attain NOAA's 5-year forecast improvement goals for hurricanes, precipitation forecasts and general weather forecasts. The Joint Center is expected to be a principal resource for continuing attention to the data assimilation issues, to take advantage of the ever-increasing quantity of data available to support weather and climate models.

The pace of improvement in observing technology, communications capability, and information processing capacity assures that the issue of "How do we best use all of the information that we collect?" will be with NOAA and other government technical agencies over the long term. I view the issue as a special application of Moore's Law that projects a doubling of information processing capability every 18 months. If confirmed, I will work with Admiral Lautenbacher in focusing NOAA's attention of the long-term opportunity and challenge afforded by the continuing improvements in data collection and processing technology.

Question 10. The second item of the President's Management Agenda calls for giving the private sector more opportunities to compete for the right to perform certain tasks traditionally performed by government employees. What opportunities do you see in NOAA's mission for greater private sector competition?

Answer: I believe that NOAA has a long-term track record of providing significant outsourcing opportunities to the private sector. As a premier scientific agency in the nation, NOAA should continue to build on its partnerships with the private and academic sectors to effectively achieve its mission. I understand that in recent years NOAA has pursued outsourcing and public/private partnerships in ship and electronic equipment maintenance, surface weather observations at airports throughout the United States, information technology network support, software development and automated data processing, and the design and construction of satellites and remote sensing instruments. I believe these examples should be used as building blocks, and that NOAA should work to achieve annual increases in the scope and quantity of its outsourcing and partnership activities.

Question 11. In your answers to the pre-hearing questions, you stated that "federal government positions are not seen as desirable long-term career choices by many of "the best and brightest" scientific and technical personnel". How does this lack of interest in federal employment hurt NOAA's ability to achieve its mission, and what steps do you propose should be taken to correct this problem?

Answer: I believe that several federal science-based agencies currently have an unfavorable demographic profile in their technical work force, with a low percentage of entry level and early career level technical specialists. I believe this profile has emerged because federal scientific employment is not seen as a priority choice for many of our best technical graduates, and because many of the best qualified early

and mid-career technical specialists in government are successfully recruited to private and academic positions. I am certain that favorable compensation opportunities in the private sector are a factor in the decisions of many promising career scientists to leave federal government service. Moreover, I believe that the opportunity for more rapid increases in responsibility and recognition also influence many government scientists to consider academic and private sector opportunities. For highly qualified scientists, the first 10 years of experience after graduation are often the most productive for new ideas; I believe that scientists in federal service should perceive opportunities for rapid increases in responsibilities when merited, during this critical 10 year period.

The deficiency in the percentage of early career scientists in federal service restricts government's access to current scientific and technological thinking from the recently educated, and suggests a possibly serious shortage of well-qualified mid-career specialists in the next few years, when a sizable percentage of current technical staff will be eligible for retirement. I believe that NOAA is better situated than the average agency on this issue, because NOAA has the benefit of several excellent laboratories, key scientists, and well-regarded R&D programs. Even so, NOAA must be alert to recruit and retain an abundant share of the younger generation of scientific and technological personnel that it needs to fulfill its missions.

I believe NOAA should further enhance its already-favorable working environment so as to encourage its technical employees to remain in public service. NOAA should continuously strive to foster an open and challenging work environment that enables our scientific and technical employees, as well as our other employees, to reach their full potential. I understand that NOAA is actively pursuing this type of environment through such initiatives as workforce development and continuous learning, as well as family friendly initiatives such as telecommuting, and the use of available personnel management flexibility such as retention allowances, and alternative personnel systems. I look forward to joining in these important efforts, and collaborating with the many highly satisfied NOAA employees to facilitate the marketing of the NOAA brand in the colleges and universities that have programs in the scientific and technical disciplines needed for NOAA's mission.